

REMARKS

The specification and drawings have been amended as requested. The claims have been amended to remove reference numerals. Claim 1 has also been amended to avoid potential ambiguity by removing the words "particularly a surface-mountable radiation-emitting and/or radiation-sensitive electro-optical component".

The invention, as claimed in independent claim 1 is directed to the problem of solder that may accidentally splash on the plastic housing surface of an electronic component during soldering of metal contact portions of the component. As recited in claim 1, an anti-solder coating is applied on that part of the surface that is not to be coated with solder. This coating resists solder and protects the plastic housing against the solder that may accidentally splash on the surface during soldering.

Claim 1 stands rejected under 35 USC 103(a) on the combination of the admitted prior art of Fig. 2 of the application (showing an uncoated device with solder splash on a plastic surface) in view of Higgins U.S. Patent No. 5,639,989

Higgins discloses an electronic component 13 (referred to as a "semiconductor die") that is connected by solder balls 14 to conductive substrate pads 18 and is coated on top with layer 24, which is applied after soldering the semiconductor die to the substrate pads 18 for the purposes of preventing short circuiting and increasing resistance to environmental stresses. As described at col. 6, lines 18-35:

In accordance with the present invention, after die 13 is properly attached to substrate 16 and the appropriate electrical connections to the substrate are made, a conformal insulative layer or coating 24 is dispensed and cured over the die and other regions of substrate 16 which will be shielded to prevent emission or coupling of EMI. Coating 24 is applied directly on the die and portions of the substrate to prevent electrical short circuiting to a subsequently deposited conductive layer(s). Thus, coating 24 should be a highly insulative material. A secondary purpose of layer 24 is to increase the reliability of device 12 by increasing resistance to environmental stresses. Coating 24 in a preferred embodiment is a pure polymer having a low modulus of elasticity, such as a silicone gel or elastomer, polyurethane, epoxy, polysiloxane, acrylic, and the like.

Coating 24 could also be a filled polymer system where the particulate filler was a highly insulative material such as specific ferrite and/or ceramic dielectric material. (emphasis added).

Higgins does not find a solution for the problem of preventing solder from sticking accidentally to unwanted regions of an electronic component, but is instead directed to different problems.

Since Higgins nowhere suggests or indicates that the layer 24, and especially a layer 24 made of polysiloxane, can be used as an anti-soldering layer, it is not obvious to apply Higgins to the Fig. 2 device of our application. Layer 24 is described by Higgins to be first of all an insulator to prevent emission or coupling of EMI and second to increase the reliability of device 12 by its low modulus of elasticity. These properties do not indicate at all that these materials might withstand high temperatures during soldering and protect certain regions against being coated by solder.

Furthermore, from Higgins there is no reason why polysiloxane should be used as anti-soldering coating. None of the materials listed in Higgins, col. 6, lines 31-32 could be applied as anti-soldering coating besides polysiloxane. A person skilled in the art would need to become inventive himself to find an appropriate anti-soldering coating.

Besides, Higgins' layer 24 is applied both to the semiconductor die and the surrounding regions. This also does not at all indicate that a layer could be applied in especially such regions next to a soldering region where coating by solder shall be prevented.

The subject matter of claim 1 accordingly is nowhere disclosed in or suggested by the references, and they are allowable under 35 USC 103(a). The remaining claims depend on claim 1 and are allowable with it.